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# *Office of Inspector General*

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*Status Assessment of FAA's  
Cost Accounting System and Practices*

*Federal Aviation Administration*

*Report Number: FI-2001-023*

*Date Issued: February 28, 2001*





# Memorandum

U.S. Department of  
Transportation  
Office of the Secretary  
of Transportation  
Office of Inspector General

Subject: **ACTION: Status Assessment of FAA's  
Cost Accounting System and Practices  
FI-2001-023**

Date: February 28, 2001

From: Kenneth M. Mead  
Inspector General *K. M. Mead*

Reply To  
Attn Of:

To: Federal Aviation Administrator

## INTRODUCTION

The Wendell H. Ford Aviation Investment and Reform Act for the 21<sup>st</sup> Century (AIR-21) instructed the Office of Inspector General (OIG) to conduct an annual assessment on whether the Federal Aviation Administration (FAA) methods for calculating and assigning costs to specific users are appropriate, reasonable, and understandable. A cost accounting system should collect the total cost of operations and assign the cost to specific activities and services for management purposes. This is essential for FAA because its operating costs have increased by about \$1.2 billion since Fiscal Year (FY) 1998, or about a 25 percent increase.

Our objective was to provide the status of FAA's cost accounting system and our results to date on specific assessment areas required by AIR-21. This is our first annual assessment on FAA's cost accounting system and data.

The Federal Aviation Reauthorization Act of 1996 required FAA to develop a cost accounting system that adequately and accurately reflects the investments, operating and overhead costs, revenues, and other financial measurement and reporting aspects of its operations. In 1997, the National Civil Aviation Review Commission recommended that FAA establish a cost accounting system to manage its resources in a businesslike manner. To fully comply with AIR-21, FAA must develop and implement a cost accounting system to effectively manage its resources.

On December 7, 2000, the President directed that the Secretary of Transportation establish a performance-based, results-oriented organization to improve the provision of air traffic service in ways that increase efficiency, take better advantage of new technologies, and accelerate modernization efforts. A credible cost accounting system is a necessary precondition to develop needed financial and cost data and thereby serve as the foundation for any results-based organization, public or private.

The FAA cost accounting system must measure the overall costs of providing specific services, including operations and labor costs. FAA also must provide useful cost data to individual facilities, lines of business, and support functions. With good cost accounting information, FAA will be able to compare the cost of facilities and functions, identify its most efficient sites and best practices to improve operations, and make management decisions accordingly. Secondly, the cost accounting system could serve as the foundation for establishing user fees, if Congress eventually elects to restructure FAA's financing and authorize additional fees.

## **RESULTS IN BRIEF**

Developing an effective cost accounting system is a significant undertaking, and FAA has made progress in developing its cost accounting system. FAA's methods for calculating its total cost are reasonable. The portion of the cost accounting system now in use correctly reports total cost equal to the amounts in FAA's financial accounting records. We also found that FAA has adequate financial source documents and cost input data, such as vendor invoices, for determining the total cost of its current operations. FAA also has adequately defined the services to which it will attribute its costs, in accordance with the standards of the International Civil Aviation Organization.

Since 1996 FAA has implemented the cost accounting system for the En Route, Oceanic, and Flight Service Stations services within its Air Traffic Services line of business. FAA still needs to complete the cost accounting system related to the Terminal/Tower portion of Air Traffic Services, and to develop the cost accounting system for its other five lines of business, which are Research and Acquisitions, Regulation and Certification, Airports, Civil Aviation Security, and Commercial Space Transportation.

FAA is 4 years behind its original scheduled completion date and projects implementation for all six of its lines of business by September 2002. Progress is being made, but FAA still has much to do to fully develop and implement its cost accounting system.

FAA's current cost accounting system, while capable of calculating cost agencywide, will not produce accurate and reliable results for specific activities and services. For example, FAA's actual cost for air traffic controller and airways facilities maintenance labor, estimated at \$3.4 billion for FY 2001, cannot be tracked to specific activities and services, which would preclude FAA from developing potentially useful information such as the cost of a particular air traffic control or maintenance shift. FAA's labor costs are more than half of its total costs. FAA has approved a plan to account for actual labor cost by activities and services. However, FAA has not reached agreement with its unions to implement the plan.

Until recently, implementation of a labor distribution plan for FAA's most significant groups, air traffic controllers and maintenance technicians, was estimated to be completed by July 2003, or 9 months after FAA plans to have completed its cost accounting system. We expressed our concern that FAA would not have a credible cost accounting system by September 2002 because it would not have its labor tracking system, which if properly developed, would provide the specific information necessary to properly allocate labor costs to specific activities and services. The FAA Administrator agreed and actions are underway to develop an acceptable method to account for labor costs by September 2002.

An effective cost accounting system that fully accounts for labor cost by activities and services would allow FAA to identify areas of low productivity and high cost. Conversely, areas of high productivity and cost efficiency also would be highlighted. With a credible cost accounting system, FAA could better manage its resources for important programs such as safety, capacity, and modernization of equipment that could improve service to the traveling public.

We have made numerous recommendations related to the appropriate accounting for financial and cost accounting issues. FAA has concurred with our recommendations and is taking, or plans to take, corrective actions. Following through with proper actions is now the key to making FAA's cost accounting system useful for effectively managing its resources. Specific areas of emphasis are:

### ***System Timeliness and Cost***

- FAA began developing its cost accounting system in FY 1996 and originally planned to have the system fully operational by October 1, 1998. Since then, FAA has changed the completion date for the system several times. Last year, FAA moved the planned completion date to September 2002. The partially developed cost accounting system already has cost FAA about \$20 million, and it is 4 years behind the original schedule. FAA estimates its cost accounting system will cost about \$35 million when completed, which is about three times the original estimate. In our opinion, FAA is taking much too long to develop its cost accounting system and needs to move forward with a greater sense of urgency.

### ***Labor Costs***

- FAA's labor costs comprised about 52 percent of its total FY 2000 costs, but FAA cannot determine the actual labor cost for each of its activities and services because the cost accounting system is not designed to do so. For example, because labor costs could not be collected by activities and services, FAA initially planned to use only 2 or 3 days of data and outdated maintenance standards to distribute \$424 million of air

traffic controller and maintenance technician labor and related costs between En Route and Oceanic services.

- Since FAA labor cost is more than half its total cost, the cost accounting system will not be effective and credible without an adequate labor distribution system. Labor distribution is the process of associating labor cost directly by requiring personnel to record their time worked on specific activities and services. FAA plans to implement its labor distribution system in phases. Until recently, the schedule for completing the labor distribution system for the air traffic controllers and maintenance technicians was July 2003. FAA has agreed to develop an acceptable method to account for labor costs by September 2002.
- The pilot labor distribution system for FAA's Research and Acquisitions line of business does not accurately collect the labor costs for facilities and equipment projects. Because FAA does not have an adequate system of policies, procedures, practices, or internal controls established to detect or prevent errors in assigning costs, we found about 36 percent or \$16 million of Research and Acquisitions labor cost for the first quarter of FY 2000 could not be identified with the proper project. We also found that FAA personnel charged their labor cost to incorrect projects. For example, employees charged about \$245,000 in labor cost to a project for the first quarter of FY 2000 although the project was completed in FY 1997. Internal controls over timekeeping were weak.

### ***Overhead Costs***

- FAA's cost accounting system does not properly collect overhead costs associated with facilities and equipment projects within its Research and Acquisitions line of business. FAA improperly combined production overhead cost and general and administrative cost into one overhead cost pool. As a result, about \$63 million annually would not have been properly added to facilities and equipment values had we not informed FAA of this problem. FAA plans to resolve this problem in November 2001, when the new Department of Transportation (DOT) financial accounting system is implemented in FAA.
- We have not audited the overhead bases in all of FAA's lines of business; however, we found that the overhead cost in the Research and Acquisitions line of business was allocated to projects using an inappropriate allocation basis. For example, on one of the Wide Area Augmentation System (a satellite navigation system) projects, more than \$1 million of overhead cost was allocated to this project, but only about \$59,000 should have been allocated.

### *Asset Management*

- FAA's systems for tracking assets are not reliable, resulting in a material internal control weakness. However, after many years of work, FAA was able to support the cost and depreciation reported for property, plant, and equipment. FAA received an unqualified audit opinion on its FY 1999 financial statements. This was accomplished by using alternative procedures and labor-intensive methods because FAA did not have an integrated property management system. FAA plans to have a fully integrated property management system to track its assets and electronically compute depreciation by November 2001.
- FAA used cost estimating techniques to support asset values of property acquired before October 1, 1994, and actual documentation for property acquired since then. FAA had to manually compute depreciation cost because its property management system could not do it automatically. We currently are auditing asset values and depreciation amounts reported as of September 30, 2000.

### *Cost Accounting System Efficiency*

- FAA's cost accounting system does not operate as efficiently as possible because of its complex processing routines. Using these processing routines, FAA needs about 20 days to process input data and verify and produce cost accounting information for each month. By comparison, a major aircraft manufacturer using the same cost accounting software as FAA can complete its processing in about 2 to 3 days.
- FAA has made little progress in developing cost and performance management practices or in establishing internal and external benchmarks because it needs reliable and comprehensive cost data that can be obtained only from an effective cost accounting system. FAA plans to incorporate cost and performance management into its administrative processes beginning in FY 2004, after it fully implements its cost accounting and labor distribution systems.

FAA needs to establish the completion of its cost accounting and labor distribution systems as a top priority and establish the estimated completion date to be when both systems are fully implemented. For a credible cost accounting system, FAA must have both the cost accounting and labor distribution systems fully operating and producing accurate data.

To meet a September 2002 implementation date for both the cost accounting and labor distribution systems, FAA needs to assign more people and money to the task. Such an investment would pay off by assisting FAA in controlling its cost growth through increased efficiency.

## **BACKGROUND**

The Federal Aviation Reauthorization Act of 1996 required FAA to develop a cost accounting system. When fully implemented, the cost accounting system should be able to measure the costs of activities and services, develop organizational performance measures, and secondarily provide a basis to support the calculation of user fees.

The Act required that user fees be directly related to the cost of services provided. FAA began charging overflight fees on March 20, 1997, but was challenged in court by several airlines. On January 30, 1998, the U.S. Court of Appeals for the District of Columbia ruled that FAA's method for calculating overflight fees was based on the value of services, which was prohibited by the Act. For example, commercial airlines were charged greater fees than general aviation users for the same service.

As a result of the court ruling, FAA stopped billing for overflights, and refunded the collected amounts. FAA re-prioritized work on the cost accounting system to focus on capturing costs that would support overflight fees. Effective August 1, 2000, FAA again began billing user fees for overflights. On August 31, 2000, several airlines filed a lawsuit against FAA. One rationale supporting the lawsuit alleges that the cost of providing FAA's overflight services is less expensive than non-overflight services.

To accurately compute costs for services and improve cost management, private industry professionals and members of the Federal Accounting Standards Advisory Board have developed managerial cost accounting standards for the Federal Government. These standards, applicable to FAA, are basically the same as those used by major industrial firms. Specific purposes are (1) establishing departmental cost targets for controlling costs and measuring performance; (2) computing costs of services and setting fees; and (3) evaluating programs.

## **OBJECTIVES AND SCOPE**

The OIG assessment of FAA progress in this report responds to the mandate as defined in Section 309 of AIR-21. This report summarizes key findings concerning FAA's cost accounting system as of December 31, 2000. We are required to perform eight specific assessments to determine whether FAA's methods for calculating amounts in the cost accounting system and assigning costs to specific users are appropriate, reasonable, and understandable.

Summaries of our assessments are in Exhibit A. In addition, a listing of audit reports and congressional testimonies relevant to the assessment areas are identified in Exhibit B.

Our objectives were to provide the status of FAA's cost accounting system and our results on specific assessments of each area required by AIR-21. These areas were: (1) the

method for calculating and assigning costs to users; (2) integrity and reliability of cost input data, including source documents and data collection process; (3) asset system for tracking; (4) methods for establishing asset values and depreciation; (5) internal controls over cost data; (6) definition of services selected for cost collection; (7) overhead pools and the reliability of the bases used for assigning common costs; and (8) FAA's use of cost and performance management for improving performance and productivity.

This report relies on work we performed on FAA's cost accounting system and annual financial statements. FAA is developing its cost accounting system and labor distribution system in phases. As additional portions of the cost accounting system are developed, we will report on the adequacy and compliance with Federal accounting standards.

## **RESULTS AND RECOMMENDATIONS**

Developing an effective cost accounting system for a large and diverse organization such as FAA is a significant undertaking. FAA is making progress in developing its cost accounting system, and its methods for calculating its overall costs are reasonable. The portion of the cost accounting system now in use correctly reports total cost equal to the amounts in FAA's financial accounting records. FAA has adequate financial source documents and cost input data, such as vendor invoices, for determining the total cost of current operations. FAA also has adequately defined services to which it will attribute its costs, in accordance with the standards of the International Civil Aviation Organization.

Since 1996 FAA has implemented the cost accounting system for the En Route, Oceanic, and Flight Service Stations services within the Air Traffic Services line of business. FAA still needs to complete the cost accounting system related to the Terminal/Tower portion of Air Traffic Services and to develop the cost accounting system for its other five lines of business. FAA is working hard to enhance the accuracy of its financial data and correct deficiencies in its cost accounting system. However, we identified areas where improvements need to be made. Major areas needing emphasis are discussed in the following paragraphs.

### **System Timeliness and Cost**

FAA's cost accounting system is behind schedule and over budget. FAA began developing a cost accounting system in FY 1996 and originally planned to have the system fully operational by October 1, 1998. FAA has since changed the system completion date several times, and last year it set the completion date for September 2002. FAA's partially implemented cost accounting system has cost about \$20 million, and it is 4 years behind the original schedule. FAA estimates the cost of the system will be about \$35 million when completed, which is about three times the original estimate.

In our opinion, FAA's slow progress in developing its cost accounting system can be attributed to a lack of organizational incentive to operate more efficiently or to manage its cost more effectively. FAA's operating costs increased by about \$1.2 billion (25 percent) since FY 1998. Most of this cost growth was driven by labor cost increases of about \$900 million during the same period. In addition, there has been no penalty for failure to develop a cost accounting system. Regardless, FAA must comply with the requirement of the Federal Aviation Reauthorization Act of 1996 to develop a cost accounting system, and more importantly, FAA needs an effective cost accounting system to identify inefficiencies and highlight opportunities for improvements.

No large organization that operates 365 days a year can do so effectively without a cost accounting system that accurately measures the cost of its activities and services. FAA needs its cost accounting system to institute organizational incentives and efficiencies, and extend the best practices to the rest of the organization. Better organizational efficiency frees funds for use in vital programs such as safety, capacity, and modernization of equipment.

## **Labor Costs**

FAA's labor cost comprises about 52 percent of its total costs, but FAA has no system to determine the labor cost of its specific activities and services. FAA estimates its FY 2001 labor costs for air traffic controllers and maintenance technicians at \$3.4 billion and its total labor cost at \$4.9 billion. Because of its significant labor cost, FAA needs an agencywide labor distribution system to determine the real cost of specific activities and services. Labor distribution is the process of associating labor cost directly by requiring personnel to record their time worked on specific projects, activities and services.

FAA's cost accounting system does not track actual labor cost of activities and services for its Air Traffic Services<sup>1</sup> line of business. The cost accounting system will not be effective until the labor distribution system is operational. For example, FAA was unable to accurately report more than \$424 million of actual air traffic controller and airway facilities maintenance labor and related cost by activities and services. Controller labor cost was assigned based on limited summary data for a 2- to 3-day period, and airway facilities labor cost was assigned and estimated based on outdated labor standards. FAA subsequently improved its estimating method and used a sample to attribute air traffic controller labor cost to En Route and Oceanic services. An effective labor distribution system could tell how much air traffic controller time is charged to specific activities and services.

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<sup>1</sup> On December 7, 2000, the Department of Transportation was directed to establish a performance-based, results-oriented organization to be known as the Air Traffic Organization which will be composed of elements of FAA's Air Traffic Services and Research and Acquisitions organizations.

FAA's Research and Acquisitions line of business designs and produces facilities and equipment systems. In FY 1998, Research and Acquisitions began a pilot labor distribution system to determine the labor cost of its facilities and equipment projects. Our audit of the design of Research and Acquisitions' cost accounting system included an evaluation of the results produced by the pilot labor distribution system.

Because FAA does not have an adequate system of policies, procedures, practices, or internal controls established to detect or prevent errors in assigning costs, we found that about 36 percent of the first quarter FY 2000 labor cost, or \$16 million, could not be tracked to specific projects, activities and services. Our audit disclosed significant labor cost reported as "no project." The no project cost could not be identified with specific projects by the Research and Acquisitions cost accounting system, which uses data from the pilot labor distribution system. FAA plans to resolve the no project problem by June 2001.

Internal controls over timekeeping were weak. FAA personnel charged their labor cost to incorrect projects. For example, employees charged about \$245,000 in labor cost to a project for the first quarter of FY 2000 although the project was completed in FY 1997.

FAA cannot expect to effectively manage its labor resources with the limited information produced by the current cost accounting system. A labor distribution system enables an organization to track the actual labor cost for specific activities and services and make informed business decisions. FAA needs an effective labor distribution system to obtain adequate information about its labor cost and identify ways to assign personnel for maximum organizational efficiency.

On November 21, 2000, FAA approved a plan to implement an agencywide labor distribution system. Implementation is in the early stages. On January 22, 2001, FAA held an initial meeting with labor union representatives to discuss implementing a labor distribution system. Until recently, FAA was estimating it would complete implementation of a labor distribution system by July 2003. FAA does not have a history of timely system development, and it needs to move more swiftly in developing its labor distribution system because more than half its total cost is for labor. The cost accounting system will be ineffective and lack credibility without an adequate labor distribution system. After we expressed our concern, the FAA Administrator agreed to develop an acceptable method to account for labor costs by September 2002.

## **Overhead Costs**

FAA has developed overhead cost pools and bases for allocation of costs to its lines of business. Although we have not audited the reliability of all these overhead cost pools, we recently completed an audit of the design of FAA's Research and Acquisitions line of business cost accounting system, which included an evaluation of the cost accounting

treatment of overhead costs. We found that the cost accounting system improperly combined production overhead cost and general and administrative cost into one overhead pool.

Federal accounting standards require that overhead cost associated with producing facilities and equipment assets should be included in the cost of assets. The cost accounting system does not identify production overhead cost and it does not have the capability to allocate production overhead cost to facilities and equipment assets. For example, about \$63 million annually would not have been properly added to facilities and equipment values had we not informed FAA of this problem. We recommended, and FAA agreed, to change its system to properly identify overhead to facilities and equipment assets. FAA plans to resolve this problem in November 2001 when the new DOT financial accounting system is implemented in FAA.

Federal accounting standards require that overhead cost be charged to projects using an appropriate allocation base. However, FAA was using an inappropriate base for allocation of overhead costs to facilities and equipment projects within its Research and Acquisitions line of business. For example, during the first quarter of FY 2000, FAA allocated over \$1 million to project 11270101, one of the Wide Area Augmentation System projects, when it should have allocated only about \$59,000 if the correct base for allocating overhead cost had been used. We recommended, and FAA agreed, to change its base for allocating overhead costs related to facilities and equipment projects, which should result in more reliable allocations.

### **Cost Accounting System Efficiency**

FAA's cost accounting system does not operate as efficiently as possible because it uses complex processing routines. For example, it takes about 20 days to process input data and verify and produce cost accounting information for each month. By comparison, a major aircraft manufacturer that uses the same cost accounting system software as FAA completes its processing in about 2 to 3 days. FAA's long processing cycle impedes its ability to make timely management decisions and correct identified errors.

FAA needs to seek ways to simplify its cost accounting system. When problems or errors occur, FAA is often unable or unwilling to correct the problems because of the long processing time to run the system. For example, at year-end, FAA discovered that the FY 2000 Flight Service Stations airway facilities labor cost was incorrect. This occurred because the cost accounting system did not properly assign the costs to Flight Service Stations. Because of the complexity of the cost accounting system, FAA decided not to correct the problems with the data. As a result, FAA is not able to rely on these data for any management purpose.

FAA's method of allocating costs to Air Traffic Services is complex because FAA is attempting to directly allocate some ordinary types of overhead costs, such as depreciation, that are based on judgmental estimates. The accuracy of this allocation technique requires extensive analysis and oversight to annually adjust the direct assignment of such costs.

Simpler overhead allocations could potentially speed up implementation of the cost accounting system and processing without distorting the amount of overhead costs allocated to specific activities and services. FAA should review its methods to determine whether more, or all, of these costs could be included in its overhead pools. This could significantly reduce the complexity and cost associated with the current practice and provide acceptable accuracy.

FAA should be striving to build an efficient system that will produce cost data needed for the FAA of tomorrow. The cost accounting system being designed does not provide potentially useful information such as the cost of a particular air traffic control shift. Such information needs should be considered now in the design phase of system development. The cost accounting system should address the needs of FAA stakeholders such as the Congress, the aviation industry, and the taxpayers. If FAA is to become an effective results-oriented organization, the cost accounting system must produce cost information that satisfies the needs of external parties as well as FAA management.

### **Recommendations**

We recommend that the FAA Administrator:

1. Establish the cost accounting and labor distribution systems as a top priority and establish the estimated completion date to be when both systems are fully implemented. FAA's goal should be to have both systems fully implemented by September 30, 2002.
2. Increase allocation of monetary and personnel resources to meet the established completion date for both systems.
3. Review the cost accounting system processes to determine whether more efficient methods can be used without a loss of system effectiveness.

### **Prior Recommendations**

We issued three other reports specifically related to the development and implementation of FAA's cost accounting system. These reports and the 13 recommendations follow:

**Audit Report Number: FI-2001-013, *Report on Design of the Cost Accounting System for Research and Acquisitions, December 18, 2000.***

- Modify the labor distribution reporting system and procedures to prevent hours from being charged to "No Project."
- Implement written timekeeping procedures to ensure that hours worked are charged to the proper projects.
- Design the cost accounting system for Research and Acquisitions to create separate cost groupings for different types of common cost, such as overhead and general and administrative expenses.
- Change the basis for allocating overhead cost to projects to a total expenditure base that includes all project costs.
- Until the cost accounting system is implemented, estimate the portion of overhead cost associated with producing facilities and equipment assets, and include the cost in work-in-process or other asset accounts until the assets are placed in use.
- Establish procedures to identify commercial and externally developed software costs incurred for all administrative systems under development, and record the cost in work-in-process or other asset accounts in the financial and cost accounting system.

**Audit Report Number: FE-2000-024, *FAA Cost and Flight Data for Aircraft Overflights, December 17, 1999.***

- Use the more accurate FY 1999 cost and flight data rather than the FY 1998 information to determine overflight costs and compute user fees.
- Update labor standards as a short-term improvement to estimate airway facilities labor costs.
- Establish a labor distribution system to capture costs for the air traffic controller and airway facilities workforces. As part of this process, establish a method to assign non-labor airway facilities costs directly to projects.

**Audit Report Number: FE-1998-186, *FAA Implementation of Cost Accounting System, August 10, 1998.***

- Collect appropriate accounting adjustments and project cost.

- Develop procedures to assure that labor costs are accurately assigned to projects.
- Determine cost incurred by other agencies and factor into FAA's full cost of operations.
- Revise the implementation plan for the cost accounting system by specifying time and resources necessary to obtain performance data, resolve schedule conflicts, and perform critical tasks.

FAA agreed with all of our recommendations. Specific corrective actions have been taken or are in process. FAA corrective actions and plans were reasonable.

## **MANAGEMENT RESPONSE**

A draft of this report was provided to the FAA Administrator and the DOT Assistant Secretary for Budget and Programs/Chief Financial Officer on February 14, 2001. They agreed with our recommendations. The FAA Administrator agreed to develop an acceptable method to account for labor costs by September 2002. Actions currently are underway to work out the specific details to achieve the September 2002 goal.

## **OFFICE OF INSPECTOR GENERAL COMMENTS**

FAA planned actions are reasonable. We considered FAA comments in preparing this report. We will work closely with FAA as it develops an acceptable plan of action to achieve the September 2002 goal to have both the cost accounting and labor distribution systems fully operational.

## **ACTION REQUIRED**

In accordance with DOT Order 8000.1C, we would appreciate receiving your written comments within 30 days. If you concur with our findings and recommendations, please identify specific corrective actions taken or planned for each recommendation and provide target dates for completion. If you do not concur, please provide your rationale. You may provide alternative courses of action that you believe would resolve the issues presented in this report.

We appreciate the courtesies and cooperation of FAA and DOT representatives. If we can answer any questions or be of further assistance, please call me at (202) 366-1959, or my Acting Deputy, Todd J. Zinser, at (202) 366-6767.

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## **Results of Assessments**

AIR-21 requires eight specific assessments to determine whether FAA's methods for calculating amounts in the cost accounting system and assigning costs to specific users are appropriate, reasonable, and understandable. The following paragraphs present results of our assessments as of December 31, 2000.

### **Assessment Area 1. Assessment to ensure that the method for calculating the overall costs of the Federal Aviation Administration and attributing these costs to specific users is appropriate, reasonable, and understandable.**

FAA's methods for calculating the overall costs of FAA are reasonable. The cost accounting system uses a combination of data from the financial accounting system and manually computed amounts, such as data related to the depreciation expense of its assets, to arrive at overall costs. Our audit of the FY 1999 FAA Financial Statements verified that the total cost presented was reasonable. The total amount reported in the cost accounting system equals the amounts reported in the financial accounting system.

While FAA's current cost accounting system is capable of calculating cost agencywide, FAA's methods for attributing its cost to specific users, activities and services are not calculated correctly because FAA often used estimates and not actual costs. Our review of the estimating processes showed FAA used inappropriate methods or inaccurate data to assign its cost. FAA's cost accounting system cannot adequately identify some costs associated with its activities and services such as En Route, Oceanic, and Flight Service Stations. In response, FAA developed special procedures enabling the cost accounting system to estimate some of these costs. For example, FAA used limited data to assign about \$154 million of air traffic controller labor cost to En Route and Oceanic services. FAA subsequently improved its estimating method and used a sample to attribute air traffic controller labor cost to En Route and Oceanic services. However, the cost accounting system still does not capture actual labor cost by activities and services.

### **Assessment Area 2. FAA cost input data, including the reliability of the Administration's source documents and the integrity and reliability of the Administration's data collection process.**

FAA has adequate financial source documents and cost input data, such as vendor invoices, for determining the total cost of current operations. However, FAA needs to improve its data collection processes to ensure that users can rely on the information produced by the cost accounting system. FAA has problems with the collection processes that affect the integrity and reliability of the information produced by the cost accounting system. For example, FAA assigned about \$270 million of maintenance labor

cost and other costs, such as office supplies, to En Route and Oceanic services based on inaccurate and outdated labor standards as opposed to actual labor cost. As of December 31, 2000, FAA still used this method to assign maintenance cost to activities and services.

These data collection problems bring into question the reliability of the information produced by the cost accounting system. FAA must have good collection processes to accurately assign its cost among services and activities. FAA is working to improve its data collection processes for better integrity and reliability of the information produced by the cost accounting system.

### **Assessment Area 3. The FAA's system for tracking assets.**

FAA's systems for tracking assets are not reliable, resulting in a material internal control weakness. The Chief Financial Officers Act of 1990 required the preparation and audit of commercial-like financial statements for all major Federal agencies. The Government Management Reform Act of 1994 expanded the requirement for audited financial statements and established the requirement for the acquisition cost of property, plant, and equipment to be reported in agencies' financial statements and certified by their auditors. Prior to this legislation, agencies were primarily concerned with knowing what property they owned, where it was located, and its condition. Records supporting the acquisition cost of property, plant, and equipment were frequently not available.

Our audits of FAA's financial statements have historically reported that FAA's systems for tracking assets were not reliable. For example, in our FY 1998 audit, in a test of 117 items, we found 4 items valued at \$50 million that should be removed from property records, one of which was a building that had been demolished 10 years earlier. After many years of work, FAA was able to support the cost reported for property, plant, and equipment, and FAA received a clean audit opinion on its FY 1999 financial statements. This was accomplished, however, by using alternative procedures and labor-intensive methods because FAA did not have an integrated property management system.

We recommended that FAA acquire a commercial, off-the-shelf, integrated property management system for tracking its assets. FAA agreed and began implementing such a system in FY 2000, but FAA was unable to complete implementation. FAA plans to have a fully integrated property management system to track its assets by November 2001.

**Assessment Area 4. FAA's methods for establishing asset values and depreciation.**

Federal agencies were not required to compute depreciation expense until FY 1998. When FAA implemented the depreciation requirements, asset values were established using estimating procedures and depreciation expense was computed manually using electronic spreadsheets for about 30,000 property items. These procedures were acceptable under accounting standards, but this method is not the best way to establish asset values. The best method is to capture the actual cost incurred when the asset is acquired or improved.

During FY 1999, FAA made an extraordinary and labor-intensive effort to overcome accounting and financial system weaknesses with its property accounts. FAA hired additional contractors, detailed employees, and used extensive employee overtime and compensatory time to overcome the system weaknesses. For real property (buildings and structures), FAA used cost estimating techniques to support the asset values of property acquired before October 1, 1994, and maintained actual documentation for property acquired since then.

FAA analyzed appropriation data, budget information, and other financial records to determine the cost of personal property (major equipment). This approach identified about \$4 billion of valid costs that had not been recorded in the asset account. FAA acknowledged these deficiencies and corrected its property records. For assets acquired after October 1, 1994, FAA is capturing actual costs.

As a result of FAA's extraordinary efforts, its property, plant, and equipment total asset value was established at \$15.5 billion as of September 30, 1999. Office of Inspector report FE-2000-058, FAA Property, Plant, and Equipment, dated February 28, 2000, provides extensive details on FAA's bases for establishing its asset values for those assets acquired prior to October 1994.

To compute depreciation, FAA documented asset acquisition dates through a variety of means including acceptance inspection reports, pictures of corner stones or dedication plaques, and copies of relevant print articles. FAA then calculated depreciation using the straight-line method, with estimated asset useful lives ranging from 5 years (vehicles and electronic data processing equipment) to 40 years (offices, buildings, and air traffic control towers) depending on the asset classification.

We found errors that needed to be corrected; however, FAA was able to correct the errors and provide adequate support for the \$4.7 billion reported as accumulated depreciation. Based on extensive audit work, we concluded that FAA asset values and accumulated depreciation were fair and reasonable as of September 30, 1999. We are auditing these

balances as of September 30, 2000. Our report on FY 2000 will be issued by March 1, 2001.

As mentioned in Assessment Area 3, FAA is in the process of implementing a property management system for tracking its assets. This system will have the capability to automatically calculate depreciation in accordance with generally accepted accounting standards. However, FAA will not have a way to integrate its property system with its financial system until both the new DOT financial system and property management system are in place.

**Assessment Area 5. FAA's system of internal controls for ensuring the consistency and reliability of reported data.**

FAA does not have an adequate system of policies, procedures, practices, or internal controls established to detect or prevent errors in assigning costs to projects, activities and services. As a result, the reported cost accounting data for specific projects, activities and services will not be consistent and reliable. For example, the Research and Acquisitions line of business implemented a pilot labor distribution system but did not implement sufficient controls to ensure the consistency and reliability of reported labor cost data. As a result, about \$16 million (36 percent), of the first quarter FY 2000 Research and Acquisitions line of business labor cost could not be assigned to specific projects, activities and services. Adequate internal controls should have existed to ensure that labor cost would be properly assigned.

Internal controls over cost accounting data were weak because FAA had not completed the design and implementation of its cost accounting system. Internal control weaknesses also have been identified in the financial accounting system, such as in the property systems, that could affect the reliability and consistency of the accounting information entered into the cost accounting system. FAA does not have a method of tracking actual labor cost for the Air Traffic Services line of business, or a system to ensure that accurate labor cost for air traffic controllers and maintenance technicians is properly charged to the appropriate activities and services. FAA relies on outdated standards and limited studies to estimate the labor cost for these activities and services. The lack of internal controls brings into question the reliability of the amounts reported for specific FAA activities and services.

**Assessment Area 6. FAA's definition of the services to which it ultimately attributes its costs.**

FAA's definition of services, to which it ultimately attributes its cost, is reasonable. FAA defined four services within its Air Traffic Services line of business: En Route, Oceanic,

Terminal, and Flight Service Stations. FAA's services are similar to the services described in the International Civil Aviation Organization standards and recommended practices. FAA's defined services also are comparable to NavCanada's (Canada's provider of air traffic control services) defined services. As a result of the President's direction to establish a results-oriented organization, FAA will create an Air Traffic Organization composed of elements of Air Traffic Services and Research and Acquisitions organizations. This reorganization may have an impact on FAA's future definition of services.

If FAA ever needs the actual cost of specific activities and services, such as communication efforts related to En Route and Oceanic services, the cost accounting system must be modified to accumulate cost at this level of detail. The system has not been designed to provide this type of information.

**Assessment Area 7. Cost pools FAA used and the rationale for and reliability of the bases which it proposes to use in allocating costs of services to users.**

As of December 31, 2000, FAA has developed overhead cost pools and bases for allocation of costs to its lines of business. We have not audited the reliability of all these overhead cost pools. We recently completed an audit of the design of the Research and Acquisitions line of business' cost accounting system. We found that the Research and Acquisitions line of business cost accounting system does not properly capture overhead cost for facilities and equipment being constructed for FAA's own use. We found that the cost accounting system improperly combined production overhead cost and general and administrative cost into one overhead cost pool.

Federal accounting standards require that a portion of overhead associated with producing facilities and equipment assets should be included in the cost of the assets. The cost accounting system does not identify production overhead cost. As a result, for FY 2000, asset values would have been understated by about \$63 million annually had we not brought it to FAA's attention. FAA agrees and plans to modify the system to appropriately allocate production overhead cost to its fixed assets.

Additionally, the Research and Acquisitions line of business was not using the appropriate base to allocate overhead or common costs to facilities and equipment projects. Federal accounting standards require that overhead cost be charged to projects using an appropriate allocation base. The Research and Acquisitions line of business use of labor cost and benefits was not an appropriate base for allocation of overhead costs to facilities and equipment projects. For example, during the first quarter of FY 2000, FAA allocated over \$1 million to project 11270101, one of the Wide Area Augmentation System projects, when it should have allocated only about \$59,000 if the correct base for

overhead allocation had been used. We recommended, and FAA agreed, to change its base for allocation of overhead costs related to facilities and equipment projects.

**Assessment Area 8. Assess the progress of FAA in cost and performance management, including use of internal and external benchmarking in improving the performance and productivity of the administration.**

Overall, FAA has made little progress in developing its cost and performance management or establishing internal or external benchmarks to improve performance and productivity. In October 2000, FAA established a Cost and Performance Management Office to develop its cost and performance management policies. FAA is just beginning to implement a cost and performance management program using its cost accounting system and plans to establish benchmarks for increasing productivity.

FAA plans to define measures of performance and develop ways to monitor those measures during FY 2001. FAA also plans to provide all organizations with cost accounting data during FY 2002 and FY 2003 and have these organizations examine their performance and develop benchmarks and goals for performance improvement. FAA plans to incorporate cost and performance management into all administrative processes beginning in FY 2004, after it fully implements its cost accounting and labor distribution systems.

As a result of the formation of the newly developed Air Traffic results-based organization, cost and performance management will be more important to FAA. FAA will be limited initially in its opportunities to use cost and performance management until its cost accounting system is fully operational. The cost accounting and labor distribution systems need to be implemented as soon as possible to establish productivity metrics, achieve cost reductions, determine productivity goals, and aid in identifying areas that could be targeted for improved practices, better resource utilization, and increased productivity. By using these systems, FAA will be able to compare the costs of similar facilities, determine the most efficient sites, and export effective practices to the rest of the organization.

**Reports and Congressional Testimonies  
Related to AIR-21 Assessment Areas**

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FAA Valuation of Logistics Center Inventory, OIG Report Number FE-1998-202, September 10, 1998.

Statement of Kenneth M. Mead, Inspector General, Before the Air Traffic Control Symposium on FAA Acquisitions, Recent Developments in the FAA Acquisitions, September 8, 1998.

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FAA Control of Appropriations, OIG Report Number FE-1998-167, July 6, 1998.

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